IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

| | | |
|---|---|---|
| THE MAGNAVOX COMPANY, a Corporation, and SANDERS ASSOCIATES, INC., a Corporation, | ) | |
| Plaintiffs, | ) | CONSOLIDATED CIVIL ACTIONS NOS. |
| v. | ) | 74 C 1030<br>74 C 2510 |
| CHICAGO DYNAMIC INDUSTRIES, INC., a Corporation, et al, | ) | |
| Defendants. | ) | |

BIOGRAPHICAL INFORMATION ON
DEFENDANTS' EXPERT WITNESSES

## CERTIFICATE OF SERVICE

This is to certify that the foregoing BIOGRAPHICAL INFORMATION ON DEFENDANTS' EXPERT WITNESSES was served on plaintiffs by hand delivering a copy to their attorney, Theodore W. Anderson, Esq., Neuman, Williams, Anderson & Olson, 77 West Washington Street, Chicago, Illinois 60602 this 25th day of October 1976 and was also served on defendant Chicago Dynamic Industries, Inc. by hand delivering a copy to their attorney, Edward C. Threedy, Threedy & Threedy, 111 West Washington Street, Chicago, Illinois 60602 this 25th day of October 1976.

One of Defendants' Attorneys

# BIOGRAPHICAL INFORMATION
## CASIMER J. DABROWSKI

## EDUCATION

Wright Junior College 1948
B.S.E.E. Illinois Institute of Technology 1951
IRE Transistor Circuits Workshop Lectures 1960
IRE Solid State Electronics Workshop Lectures 1961
IRE Communications Unlimited Lectures 1962
Professional Supervision Program - University of Chicago 1964
Logic Design & Digital Electonics Courses - RCA Institute 1967
Effective Engineer - Manager Course - The Illinois Institute of Applied Psychology 1967
Design and Application Course on MOS Semiconductor Devices - Texas Instruments 1971
Microprocessors & Microcomputers - Infoscope, Inc. 1976
The SC/MP Microprocessor - National Semiconductors 1976

## TECHNICAL EXPERIENCE

First employed as Junior Electrical Engineer by the Seeburg Corporation and presently employed by Seeburg as a Section Engineer (1951-present).

Junior Electrical Engineer 1951-1955: Production engineering and packaging design of military electronic equipment.

Electrical Engineer-Senior 1955-1957: Design and production engineering on radio frequency transmitters, transducers for Telemetry Systems, and in-flight tape recorders used in military electronic equipment.

Project Engineer 1957-1966: Design of transistorized circuits to replace vacuum tube circuits used in Seeburg coin operated phonograph. Design of hybrid electro-mechanical - electronic automatic phonograph record selection system which was patented.

Section Engineer 1966-Present: Supervision and design of the digital selection system used in the Seeburg digital phonograph. Awarded several patents on designs used in this phonograph.

Supervised the engineering that was involved in producing video amusement games.

Design of the 100 watt audio amplifier used in the present Seeburg phonograph.

Supervising the design of an electronic pinball game that will use a microprocessor and electronic memories to replace electro-mechanical devices.

PATENTS

| Number | Issued | Descriptive Title |
|---|---|---|
| 3,541,514 | 1970 | Automatic Phonograph Record Selection |
| 3,548,387 | 1970 | Bonus Crediting System |
| 3,668,476 | 1972 | Self-Locking Enclosure for Electronic Circuitry and Method of Assembling the Same |
| 3,716,124 | 1973 | Vending Machine Pricing Control Arrangement |

# BIOGRAPHICAL INFORMATION
## ARTHUR W. HOLT

## EDUCATION

B.A. Physics Williams College 1943
M.A. Physics Williams College 1948
Graduate Studies Harvard University 1948-1949

## MILITARY SERVICE

Radar Officer U.S. Army Signal Corps 1943-1946
(Harvard-M.I.T. Radar Course 1943-1944)

## TECHNICAL EXPERIENCE

President, Arthur Holt Inc., November 1972-Present. (Consultant on projects involving computers and optical character reading systems.) Projects include:

1. System for recognition of individual television frames without coding in real time.
2. Development of a new optical character reader for reading particularly degraded printing.
3. Analysis of a new form of a constrained hand-print Optical Character Reader.
4. Analysis of finger print recognition devices for welfare recipient identification.
5. Study of real time display of simulated targets with application to the maritime industry.
6. Modernizing data entry techniques for United States Census Bureau.
7. Expert witness in computer patent suit on behalf of Optical Recognition Systems.
8. Proposal for Government ADP Strategy Study.
9. Analysis of information retrieval using television components.

10. Design and development of a mobile computer for recognizing auto license tags for use in police vehicles.

11. Expert witness in a patent interference proceeding.

12. Invention and design of device for reading a combination of stamp and zipcode.

13. Expert witness, Schmersal Patent Application No. 139,799.

14. Design and development of facsimile scanner/printer with image processing for computerized sorting of check images.

15. Evaluation for the Office of Energy Related Inventions.

16. Design, development and evaluation of information retrieval systems using closed circuit television components.

Senior Research Scientist, Recognition Equipment, Inc., May 1971-Nov. 1972. Responsible for development of new algorithm for reading hand printed and machine printed alphanumeric characters. Also served as consultant on Advanced Optical Character Reader for the U.S. Postal Service.

Vice President and Chief Scientist, Recognition Terminals, July 1969-May 1971. Design and development of data terminal system based on optical character recognition. Developed "Snow White" technique for reading hand printed numeric characters.

Chief Electronics Engineer, Rabinow Engineering Co., May 1955-June 1969. Responsible for development and supervision of various types of optical recognition machines. Development of finger print recognition equipment. Invented helical scan video tape recorder.

Section Chief, Electronic Computing Laboratory, National Bureau of Standards, September 1949-May 1955. Responsible for design and construction of "SEAC" computer. Developed diode-capacitor memory and discovered amplification property of semi-conductor diodes. Responsible for development and maintenance of "Williams Tube" (electrostatic memory).

## RECENT PAPERS

"Comparative Religion in Character Recognition Machines", IEEE Computer Group News, November 1968.

"What Was Promised--What We Have--And What Is Being Promised In Character Recognition", AFIPS Conference Proceedings, Volume 33 (1968).

"Smart Terminals", Datamation, October 1970.

"OCR: The Almost Transparent System", Infotech State of the Art Report on Computing Terminals, June 1971.

"Algorithm for a Low Cost Hand Print Reader", Computer Design, February 1974.

## HONORS AND AFFILIATIONS

Fellow, IEEE.

Member, American Society for Cybernetics.

Guest Editor, Special Issue on OCR, PATTERN RECOGNITION, Pergammon Press, 1976, Vol. 8.

## CONSULTING EXPERIENCE

Owens-Illinois
Input-Output Machines Inc
National Bureau of Standards
Videofax Communications Corp.
Institute for Highway Safety
Control Data Inc.
Maritime Institute
Calspan Inc.
Optical Recognition Systems
Public Administration Service

U.S. PATENTS

| Number | Issued | Descriptive Title |
|---|---|---|
| 2,739,236 | 3/20/56 | Dynamic Biasing for Binary Pulse Amplifiers |
| 2,840,799 | 6/24/58 | Very Rapid Access Memory for Electronic Computers |
| 2,879,409 | 3/24/59 | Diode Amplifier |
| 2,895,077 | 7/14/59 | Gas Diode Linear Register |
| 2,913,600 | 11/17/59 | Diode Amplifier and Computer Circuitry |
| 2,919,314 | 12/29/59 | Means for Recording and/or Reproducing Recorded High Frequency Signals |
| 3,020,995 | 2/13/62 | Typewriter Key Cap Switch for Additional Signals |
| 3,104,369 | 9/17/63 | High Speed Identification of Printed Matter |
| 3,104,371 | 9/17/63 | Character Information Positioning in Reading Machine |
| 3,104,372 | 9/17/63 | Multi-Level Quantizing for Character Readers |
| 3,142,818 | 7/28/64 | Character Recognition Using Curve Tracing |
| 3,160,855 | 12/8/64 | Doubles Decision Detector for Reading Machines |
| 3,164,805 | 1/5/65 | Sequential Scan System Having Parallel to Serial Conversion |
| 3,171,032 | 2/23/65 | Photomultiplier with Standardized Gain |
| 3,173,126 | 3/9/65 | Reading Machine with Core Matrix |

| Number | Issued | Descriptive Title |
|---|---|---|
| 3,178,688 | 4/13/65 | Character Recognition by Feature Selection |
| 3,182,205 | 5/4/65 | Logic Package |
| 3,184,712 | 5/18/65 | Core Correlation Matrix Reader |
| 3,186,610 | 6/8/65 | Machine Readable Characters and Processes |
| 3,193,799 | 7/6/65 | Reading Machine with Time-Spatial Data Extraction |
| 3,197,766 | 7/27/65 | Stacked Circuit Boards |
| 3,259,883 | 7/5/66 | Reading System with Dictionary Lookup |
| 3,303,466 | 2/7/67 | Character Separating Reading Machine |
| 3,308,577 | 3/14/67 | Miniature Sailing Game Controlled by Photocells |
| 3,519,990 | 7/7/70 | Recognition System for Reading Machine |
| 3,651,461 | 3/21/72 | Center Referenced Character Identification |